The Aeronautical Journal of the Royal Aeronautical Society

INCORPORATING THE INSTITUTION OF AERONAUTICAL ENGINEERS AND THE HELICOPTER ASSOCIATION OF GREAT BRITAIN

VOLUME LXXXXI

JANUARY—DECEMBER 1987

SUBJECT INDEX

AERODYNAMICS

On the application of axiomatic aerodynamic modelling to aircraft dynamics
Part 1: Introduction to the concept of axiomatic and aerodynamic modelling.
Part 2: Longitudinal aircraft motions with attached flow.
Part 3: Coupled longitudinal-lateral aircraft motions, with attached flow. pp 1-28 (Jan.).
Part 4: Two-dimensional dynamic stall, Hancock G. J. and Lam J. S. Y., pp 72-88 (Feb.).
A review of the aerodynamics of a jet in a cross flow, Hancock G. J., pp 201-213 (May).
Investigation of the aerodynamic performance and noise characteristics of a 1/5th scale model of the Dowty Rotol R212 propeller, Trebble W. J. G., pp 225-236 (May).
Aerodynamic and hydrodynamic aspects of high-speed water surface craft, Nangia R. K., pp 241-268 (June/July).
Investigations of the aerodynamic performance and noise characteristics of a Dowty Rotol R212 propeller at full-scale in the 24 ft wind tunnel, Trebble W. J. G., pp 275-284 (June/July).
Inviscid theory of two-dimensional aerofoil/spoiler configurations at low-speed, Tou H. B. and Hancock G. J.
Part I: Some experiences on simple panel methods applied to attached and separated flows.
Part II: Steady aerofoil-spoiler characteristics, pp 350-366 (Oct.).
Part III: On an incremental problem related to the steady flow about an aerofoil/spoiler configuration.
Part IV: Oscillatory aerofoil/spoiler characteristics, pp 406-428 (Nov.).
Part V: Steady and oscillatory aerofoil/spoiler flap characteristics.
Part VI: The rapid deployment of a spoiler on a two-dimensional aerofoil, pp 479-498 (Dec.).
WING TIP FLOWS AND WING DEVICES (Symposium)
Introductory remarks, Smith J. H. B.
Wing tip sails; progress to date and future developments, Spillman J. J.
The tip flow of a part span slotted flap, Willmer A. C., Barrett R. V. and Coleman J. D.
Experimental studies of viscous regions near streamlined wing tips (Synopsis), Horton H. P. and Xenophontos X. M., pp 443-470 (Dec.).

AEROFOILS

Studies of the flow field near a NACA 4412 aerofoil maximum lift, Hastings R. C. and Williams B. R., pp 29-44 (Jan.).
Inviscid theory of two-dimensional aerofoil/spoiler configurations at low-speed, Tou H. B. and Hancock G. J.
Part I: Some experiences on simple panel methods applied to attached and separated flows.
Part II: Steady aerofoil-spoiler characteristics, pp 350-366 (Oct.).
Part III: On an incremental problem related to the steady flow about an aerofoil/spoiler configuration.
Part IV: Oscillatory aerofoil/spoiler characteristics, pp 406-428 (Nov.).
Part V: Steady and oscillatory aerofoil/spoiler flap characteristics.
Part VI: The rapid deployment of a spoiler on a two-dimensional aerofoil, pp 479-498 (Dec.).
WING TIP FLOWS AND WING DEVICES (Symposium)
Introductory remarks, Smith J. H. B.
Wing tip sails; progress to date and future developments, Spillman J. J.
The tip flow of a part span slotted flap, Willmer A. C., Barrett R. V. and Coleman J. D.
Experimental studies of viscous regions near streamlined wing tips (Synopsis), Horton H. P. and Xenophontos X. M., pp 443-470 (Dec.).
A first order theory for Newtonian flow over two-dimensional airfoils, Hemdan H. T., pp 471-478 (Dec.).

AIR LAW

Civil aviation, hijacking and international terrorism — an historical and legal review, Dawson H. G., pp 51-63 (Feb.).

AIR-TO-AIR REFUELLING

The longitudinal dynamic stability and control of a large receiver aircraft during air-to-air refuelling, Bloy A. W., Ali K. A. M. and Trochalidis V., pp 64-71 (Feb.).

BOOK REVIEWS — AUTHORS

Blake, L. V., Radar Range — Performance Analysis, p 338 (Aug./Sept.).
Carter, A. D. S., Mechanical Reliability — 2nd Edition, p 192 (April).
Cohen, H. *et al*, Gas Turbine Theory — 3rd Edition, p 338 (Aug./Sept.).
Emanuel, G., Gasdynamics: Theory and Applications, p 390 (Oct.).
Habashi, W. G. (Editor), Computational Methods in Viscous Flows. Recent Advances in Numerical Methods in Fluids. Vol. 3, p 45 (Jan.).
Advances in Computational Transonics. Recent Advances in Numerical Methods in Fluids. Vol. 4, p 45 (Jan.).
Hemsch, M. J. and Nielsen, J. N., Tactical Missile Aerodynamics. Progress in Aeronautics and Astronautics. Vol. 104, p 438 (Nov.).
Hucho, W.-M. (Editor), Aerodynamics of Road Vehicles: From Fluid Mechanics to Vehicle Engineering, p 285 (June/July).
Kinloch, A. J. (Editor), Structural Adhesives: Developments in Resins and Primers, p 89 (Feb.).
Kotik, M. G. (Compiler), Dictionary of Aerospace Engineering: in three languages — Russian, English, German, p 192 (April).
Leonov, A. I. and Fomichev, K. I., Monopulse Radar, p 237 (May).
Lesieur, M., Turbulence in Fluids: Stochastic and Numerical Modelling, p 390 (Oct.).
Lewis, F. L., Optimal Control, p 499 (Dec.).
Matthews, F. L. (Editor), Joining Fibre-Reinforced Plastics, pp 192-193 (April).
Mattingly, J. D. *et al*., Aircraft Engine Design, p 438 (Nov.).
Prouty, R. W., Helicopter Aerodynamics, p 46 (Jan.).
Schleher, D. C., Introduction to Electronic Warfare, p 89 (Feb.).
Stengel, R. F., Stochastic Optimal Control: Theory and Application, p 499 (Dec.).
Trillo, R. L. (Editor), Jane's High Speed Marine Craft and Air Cushion Vehicles 1986 (formerly Jane's Surface Skimmers) — 19th Edition, p 150 (March).

BOOK REVIEWS — TITLES

Advances in Computational Transonics. Recent Advances in Numerical Methods in Fluids. Vol. 4, W. G. Habashi (Editor), p 45 (Jan.).
Aerodynamics of Road Vehicles: From Fluid Mechanics to Vehicle Engineering, W.-H. Hucho (Editor), p 285 (June/July).
Aircraft Engine Design, J. D. Mattingly, *et al*, p 438 (Nov.).
Computational Methods in Viscous Flows. Recent Advances in Numerical Methods in Fluids. Vol. 3, p 45 (Jan.).
Dictionary of Aerospace Engineering: in three languages — Russian, English, German, M. G. Kotik (Compiler), p 192 (April).
Gasdynamics: Theory and Applications, G. Emanuel, p 390 (Oct.).
Gas Turbine Theory — 3rd Edition, H. Cohen *et al*, p 338 (Aug./Sept.).
Helicopter Aerodynamics, R. W. Prouty, p 46 (Jan.).
Introduction to Electronic Warfare, D. C. Schleher, p 89 (Feb.).
Jane's High Speed Marine Craft and Air Cushion Vehicles 1986 (formerly Jane's Surface Skimmers) — 19th Edition, R. L. Trillo (Editor), p 150 (March).
Joining Fibre-Reinforced Plastics, F. L. Matthews (Editor), pp 192-193 (April).
Mechanical Reliability — 2nd Edition, A. D. S. Carter, p 192 (April).
Monopulse Radar, A. I. Leonov and K. I. Fomichev, p 237 (May).
Optimal Control, F. L. Lewis, p 499 (Dec.).
Radar Range — Performance Analysis, L. V. Blake, p 338 (Aug./Sept.).
Stochastic Optimal Control: Theory and Application, R. F. Stengel, p 499 (Dec.).
Structural Adhesives: Developments in Resins and Primers, A. J. Kinloch (Editor), p 89 (Feb.).
Tactical Missile Aerodynamics. Progress in Aeronautics and Astronautics. Vol. 104, M. J. Hemsch and J. N. Nielsen, p 438 (Nov.).
Turbulence in Fluids: Stochastic and Numerical Modelling, M. Lesieur, p 390 (Oct.).

BOUNDARY LAYERS

Measurement of the drag of various three-dimensional excrescences in turbulent boundary layers, Gaudet L., pp 170-182 (April).
The air-injection method of fixing boundary layer transition and investigating scale effects, Ashill P. R., Fulker J. L. and Weeks D. J., pp 214-224 (May).
27th Lanchester Memorial Lecture — Scale effect in transonic flow, Haines A. B., pp 291-313 (Aug./Sept.).
An appraisal of 'flat plate' closure for the approximate solution of boundary layer problems., Poll D. I. A. and Hellon C. M., pp 373-389 (Oct.).

CIVIL AVIATION

Civil aviation, hijacking and international terrorism — an historical and legal review, Dawson H. G., pp 51-63 (Feb.).

COMPUTATION

Supersonic flow simulation for a boat-tailed heat shield, Purohit S. C., pp 183-189 (April).

FLIGHT PERFORMANCE

Aero-marine design and flying qualities of floatplanes and flying boats, Stinton D., pp 97-127 (March).
Correlation of predicted and free flight responses near departure conditions of a high incidence research model, Ross A. J. and Edwards G. F., pp 397-405 (Nov.).

The Aeronautical Journal of the Royal Aeronautical Society

INCORPORATING THE INSTITUTION OF AERONAUTICAL ENGINEERS AND THE HELICOPTER ASSOCIATION OF GREAT BRITAIN

VOLUME LXXXXI

JANUARY—DECEMBER 1987

SUBJECT INDEX

AERODYNAMICS

On the application of axiomatic aerodynamic modelling to aircraft dynamics
Part 1: Introduction to the concept of axiomatic and aerodynamic modelling.
Part 2: Longitudinal aircraft motions with attached flow.
Part 3: Coupled longitudinal-lateral aircraft motions, with attached flow. pp 1-28 (Jan.).
Part 4: Two-dimensional dynamic stall, Hancock G. J. and Lam J. S. Y., pp 72-88 (Feb.).
A review of the aerodynamics of a jet in a cross flow, Hancock G. J., pp 201-213 (May).
Investigation of the aerodynamic performance and noise characteristics of a 1/5th scale model of the Dowty Rotol R212 propeller, Trebble W. J. G., pp 225-236 (May).
Aerodynamic and hydrodynamic aspects of high-speed water surface craft, Nangia R. K., pp 241-268 (June/July).
Investigations of the aerodynamic performance and noise characteristics of a Dowty Rotol R212 propeller at full-scale in the 24 ft wind tunnel, Trebble W. J. G., pp 275-284 (June/July).
Inviscid theory of two-dimensional aerofoil/spoiler configurations at low-speed, Tou H. B. and Hancock G. J.
Part I: Some experiences on simple panel methods applied to attached and separated flows.
Part II: Steady aerofoil-spoiler characteristics, pp 350-366 (Oct.).
Part III: On an incremental problem related to the steady flow about an aerofoil/spoiler configuration.
Part IV: Oscillatory aerofoil/spoiler characteristics, pp 406-428 (Nov.).
Part V: Steady and oscillatory aerofoil/spoiler flap characteristics.
Part VI: The rapid deployment of a spoiler on a two-dimensional aerofoil, pp 479-498 (Dec.).
WING TIP FLOWS AND WING DEVICES (Symposium)
Introductory remarks, Smith J. H. B.
Wing tip sails; progress to date and future developments, Spillman J. J.
The tip flow of a part span slotted flap, Willmer A. C., Barrett R. V. and Coleman J. D.
Experimental studies of viscous regions near streamlined wing tips (Synopsis), Horton H. P. and Xenophontos X. M., pp 443-470 (Dec.).

AEROFOILS

Studies of the flow field near a NACA 4412 aerofoil maximum lift, Hastings R. C. and Williams B. R., pp 29-44 (Jan.).
Inviscid theory of two-dimensional aerofoil/spoiler configurations at low-speed, Tou H. B. and Hancock G. J.
Part I: Some experiences on simple panel methods applied to attached and separated flows.
Part II: Steady aerofoil-spoiler characteristics, pp 350-366 (Oct.).
Part III: On an incremental problem related to the steady flow about an aerofoil/spoiler configuration.
Part IV: Oscillatory aerofoil/spoiler characteristics, pp 406-428 (Nov.).
Part V: Steady and oscillatory aerofoil/spoiler flap characteristics.
Part VI: The rapid deployment of a spoiler on a two-dimensional aerofoil, pp 479-498 (Dec.).
WING TIP FLOWS AND WING DEVICES (Symposium)
Introductory remarks, Smith J. H. B.
Wing tip sails; progress to date and future developments, Spillman J. J.
The tip flow of a part span slotted flap, Willmer A. C., Barrett R. V. and Coleman J. D.
Experimental studies of viscous regions near streamlined wing tips (Synopsis), Horton H. P. and Xenophontos X. M., pp 443-470 (Dec.).
A first order theory for Newtonian flow over two-dimensional airfoils, Hemdan H. T., pp 471-478 (Dec.).

AIR LAW

Civil aviation, hijacking and international terrorism — an historical and legal review, Dawson H. G., pp 51-63 (Feb.).

AIR-TO-AIR REFUELLING

The longitudinal dynamic stability and control of a large receiver aircraft during air-to-air refuelling, Bloy A. W., Ali K. A. M. and Trochalidis V., pp 64-71 (Feb.).

BOOK REVIEWS — AUTHORS

Blake, L. V., Radar Range — Performance Analysis, p 338 (Aug./Sept.).
Carter, A. D. S., Mechanical Reliability — 2nd Edition, p 192 (April).
Cohen, H. *et al*, Gas Turbine Theory — 3rd Edition, p 338 (Aug./Sept.).
Emanuel, G., Gasdynamics: Theory and Applications, p 390 (Oct.).
Habashi, W. G. (Editor), Computational Methods in Viscous Flows. Recent Advances in Numerical Methods in Fluids. Vol. 3, p 45 (Jan.).
Advances in Computational Transonics. Recent Advances in Numerical Methods in Fluids. Vol. 4, p 45 (Jan.).
Hemsch, M. J. and Nielsen, J. N., Tactical Missile Aerodynamics. Progress in Aeronautics and Astronautics. Vol. 104, p 438 (Nov.).
Hucho, W.-M. (Editor), Aerodynamics of Road Vehicles: From Fluid Mechanics to Vehicle Engineering, p 285 (June/July).
Kinloch, A. J. (Editor), Structural Adhesives: Developments in Resins and Primers, p 89 (Feb.).
Kotik, M. G. (Compiler), Dictionary of Aerospace Engineering: in three languages — Russian, English, German, p 192 (April).
Leonov, A. I. and Fomichev, K. I., Monopulse Radar, p 237 (May).
Lesieur, M., Turbulence in Fluids: Stochastic and Numerical Modelling, p 390 (Oct.).
Lewis, F. L., Optimal Control, p 499 (Dec.).
Matthews, F. L. (Editor), Joining Fibre-Reinforced Plastics, pp 192-193 (April).
Mattingly, J. D. *et al*., Aircraft Engine Design, p 438 (Nov.).
Prouty, R. W., Helicopter Aerodynamics, p 46 (Jan.).
Schleher, D. C., Introduction to Electronic Warfare, p 89 (Feb.).
Stengel, R. F., Stochastic Optimal Control: Theory and Application, p 499 (Dec.).
Trillo, R. L. (Editor), Jane's High Speed Marine Craft and Air Cushion Vehicles 1986 (formerly Jane's Surface Skimmers) — 19th Edition, p 150 (March).

BOOK REVIEWS — TITLES

Advances in Computational Transonics. Recent Advances in Numerical Methods in Fluids. Vol. 4, W. G. Habashi (Editor), p 45 (Jan.).
Aerodynamics of Road Vehicles: From Fluid Mechanics to Vehicle Engineering, W.-H. Hucho (Editor), p 285 (June/July).
Aircraft Engine Design, J. D. Mattingly, *et al*, p 438 (Nov.).
Computational Methods in Viscous Flows. Recent Advances in Numerical Methods in Fluids. Vol. 3, p 45 (Jan.).
Dictionary of Aerospace Engineering: in three languages — Russian, English, German, M. G. Kotik (Compiler), p 192 (April).
Gasdynamics: Theory and Applications, G. Emanuel, p 390 (Oct.).
Gas Turbine Theory — 3rd Edition, H. Cohen *et al*, p 338 (Aug./Sept.).
Helicopter Aerodynamics, R. W. Prouty, p 46 (Jan.).
Introduction to Electronic Warfare, D. C. Schleher, p 89 (Feb.).
Jane's High Speed Marine Craft and Air Cushion Vehicles 1986 (formerly Jane's Surface Skimmers) — 19th Edition, R. L. Trillo (Editor), p 150 (March).
Joining Fibre-Reinforced Plastics, F. L. Matthews (Editor), pp 192-193 (April).
Mechanical Reliability — 2nd Edition, A. D. S. Carter, p 192 (April).
Monopulse Radar, A. I. Leonov and K. I. Fomichev, p 237 (May).
Optimal Control, F. L. Lewis, p 499 (Dec.).
Radar Range — Performance Analysis, L. V. Blake, p 338 (Aug./Sept.).
Stochastic Optimal Control: Theory and Application, R. F. Stengel, p 499 (Dec.).
Structural Adhesives: Developments in Resins and Primers, A. J. Kinloch (Editor), p 89 (Feb.).
Tactical Missile Aerodynamics. Progress in Aeronautics and Astronautics. Vol. 104, M. J. Hemsch and J. N. Nielsen, p 438 (Nov.).
Turbulence in Fluids: Stochastic and Numerical Modelling, M. Lesieur, p 390 (Oct.).

BOUNDARY LAYERS

Measurement of the drag of various three-dimensional excrescences in turbulent boundary layers, Gaudet L., pp 170-182 (April).
The air-injection method of fixing boundary layer transition and investigating scale effects, Ashill P. R., Fulker J. L. and Weeks D. J., pp 214-224 (May).
27th Lanchester Memorial Lecture — Scale effect in transonic flow, Haines A. B., pp 291-313 (Aug./Sept.).
An appraisal of 'flat plate' closure for the approximate solution of boundary layer problems., Poll D. I. A. and Hellon C. M., pp 373-389 (Oct.).

CIVIL AVIATION

Civil aviation, hijacking and international terrorism — an historical and legal review, Dawson H. G., pp 51-63 (Feb.).

COMPUTATION

Supersonic flow simulation for a boat-tailed heat shield, Purohit S. C., pp 183-189 (April).

FLIGHT PERFORMANCE

Aero-marine design and flying qualities of floatplanes and flying boats, Stinton D., pp 97-127 (March).
Correlation of predicted and free flight responses near departure conditions of a high incidence research model, Ross A. J. and Edwards G. F., pp 397-405 (Nov.).

FLUID MECHANICS: FLOW

Shock-induced separated flows on the lee surface of delta wings, Seshadri S. N. and Narayan K. Y., pp 128-141 (March).
The 'Chu-tube': a velocimeter for use in highly-sheared three-dimensional steady flows, Chu J. K., Rios-Chiquete E., Sarohia S. and Bernstein L., pp 142-149 (March).
Generation of axi-symmetric body shapes in subsonic flow by means of polynomial distributions of sources and doublets along the axis of symmetry, Christopher P. A. T. and Shaw C. T., pp 155-169 (April).
Supersonic flow simulation for a boat-tailed heat shield, Purohit S. C., pp 183-189 (April).
Flow visualisation on rolling models using minitufts, O'Leary C. O. and Drew W., pp 269-274 (June/July).
27th Lanchester Memorial Lecture — Scale effect in transonic flow, Haines A. B., pp 291-313 (Aug./Sept.).
An assessment of the use of low-order panel methods for the calculation of supersonic flows, Smith J. S. and Woodward D. S., pp 314-320 (Aug./Sept.).
On the speed of progressive waves in gust-tunnels of the QMC type, Ishaq M. S. and Bernstein L., pp 321-332 (Aug./Sept.).
A numerical model for analysis of thin wings in inviscid incompressible flow, Singh B. K. and Basu B. C., pp 333-337 (Aug./Sept.).
Inviscid theory of two-dimensional aerofoil/spoiler configurations at low-speed, Tou H. B. and Hancock G. J.
Part I: Some experiences on simple panel methods applied to attached and separated flows.
Part II: Steady aerofoil-spoiler characteristics, pp 350-366 (Oct.).
Part III: On an incremental problem related to the steady flow about an aerofoil/spoiler configuration.
Part IV: Oscillatory aerofoil/spoiler characteristics, pp 406-428 (Nov.).
Part V: Steady and oscillatory aerofoil-spoiler flap characteristics.
Part VI: The rapid deployment of a spoiler on a two-dimensional aerofoil, pp 479-498 (Dec.).
WING TIP FLOWS AND WING DEVICES (Symposium)
Introductory remarks, Smith J. H. B.
Wing tip sails; progress to date and future developments, Spillman J. J.
The tip flow of a part span slotted flap, Willmer A. C., Barrett R. V. and Coleman J. D.
Experimental studies of viscous regions near streamlined wing tips (Synopsis), Horton H. P. and Xenophontos X. M., pp 443-470 (Dec.).
A first order theory for Newtonian flow over two-dimensional airfoils, Hemdan H. T., pp 471-478 (Dec.).

FLYING BOATS

Aero-marine design and flying qualities of floatplanes and flying boats, Stinton D., pp 97-127 (March).

LAMINAR FLOW

An appraisal of 'flat plate' closure for the approximate solution of boundary layer problems, Poll D. I. A. and Hellon C. M., pp 373-389 (Oct.).

NOISE

Investigation of the aerodynamic performance and noise characteristics of a 1/5th scale model of the Dowty Rotol R212 propeller, Trebble W. J. G., pp 225-236 (May).
Investigations of the aerodynamic performance and noise characteristics of a Dowty Rotol R212 propeller at full-scale in the 24 ft wind tunnel, Trebble W. J. G., pp 275-284 (June/July).

PHOTOGRAPHS

Aircraft

Example of metal seaplane construction, early 1930s, p 100 (March).
Canadair CL-215 firebombing, p 102 (March).
Canadair CL-215 in planing attitude for picking up water, p 102 (March).
Conventional metal hull under construction, p 106 (March).
GRP construction of hull and wing of Dornier Seamaster, p 106 (March).
Replica Supermarine S5, p 107 (March).
Rhein Flugzeugbau Y-114, p 107 (March).
Cessna Caravan 1 floatplane, p 107 (March).
Forebody warp of Grumman Widgeon, p 107 (March).
Shinmeiwa PS-1 short take off, p 107 (March).
Two-wave sequence showing aircraft taxiing, p 107 (March).
Martin Seamaster experimental jet flying boat needing water flaps for manoeuvring and braking, p 108 (March).
Short Sunderland making blister spray, p 108 (March).
Dornier Do24 ATT making blister spray, p 109 (March).
Convair Sea Dart with hydroskis, p 110 (March).
Lake LA-4 planing, p 110 (March).
Dornier Do24 ATT showing spray suppression by sponsons, p 116 (March).
Consolidated Catalina (Canso) with retractable tip-floats, p 116 (March).
Supermarine S5 ploughing (c1931), p 121 (March).
Planing with tail controls suggesting the start of a plough turn, p 123 (March).
De Havilland Sea Tiger in transition from ploughing to planing, p 123 (March).
De Havilland Sea Tiger planing, p 124 (March).
Cessna floatplane on lift-off, afterbodies of floats paralleling the water, p 124 (March).
'The Moment of truth' Blackburn Iris c1930 on touchdown, p 125 (March).
The Voisin Canard Hydro-aeroplane in flight, p 253 (June/July).
Convair experiment hydro-ski fighter, p 254 (June/July).
Artist's rendering of a Power-Augmented Ram/Wing-in-Ground effect craft, p 264 (June/July).
Artist's conception of a large ocean-going Power-Augmented Ram/Wing-in-ground Effect Transport craft, p 265 (June/July).
Sails mounted on the Paris tip tanks (side view), p 447 (Dec.).
Centurion with sails, p 450 (Dec.).
Spray caught up into wing tip vortices, p 450 (Dec.).
Wing tip sails on a Pawnee D agricultural aircraft, p 451 (Dec.).

Miscellaneous

Wave spectra seen on radar, p 102 (March).
Typical oil flow patterns on twin wings, p 131 (March).
Oil flow patterns for rivet heads over a range of Reynolds numbers, p 181 (April).
Primary feather of a rook, p 452 (Dec.).
Marsh Harrier, p 452 (Dec.).

Water surface craft

Unstable flight at 40°, p 241 (June/July).
Blow-over through excessive air-lift, p 242 (June/July).
A typical roll sequence, p 243 (June/July).
Instability in the vicinity of other craft, p 243 (June/July).
John Cobb and his team in 1952, p 248 (June/July).
Donald Campbell's Bluebird K7 in 1967, p 250 (June/July).
Donald Campbell, 1957, p 250 (June/July).
The fatal crash of Bluebird K7 in 1967, p 251 (June/July).
Ken Warby's Spirit of Australia, p 251 (June/July).
Spirit of Australia with stability enhancing tailplane, p 251 (June/July).
Lee Taylor's US Discovery II, p 252 (June/July).
The design of a jet powered boat, 1979, p 252 (June/July).
Molinari 'tunnel-hull' craft at speed, p 252 (June/July).
'Pickle Fork' modification to the 'tunnel-hull' design, p 252 (June/July).
The addition of downward lift canards, p 253 (June/July).
Prototype of a 'sea knife' craft, p 255 (June/July).
Inboard engine 3-pointer hydroplane with improved aerodynamic features, p 255 (June/July).
The Polaris Air Dinghy, p 256 (June/July).
Modern flying cats, p 260 (June/July).

Wind tunnels

Propeller test rig of 1.5 metre acoustic tunnel, p 227 (May).
Flow visualisation on HIRM 2. α = 16° and 28°, p 271 (June/July).
Flow visualisation on HIRM 1. α = 16°, p 272 (June/July).
Flow visualisation on HIRM 1. α = 30°, p 273 (June/July).
Dowty Rotol four-bladed R212 propeller for 24 ft wind tunnel, p 275 (June/July).

RESEARCH BODIES

The history of the Aeronautical Research Council; a personal view, Pugsley Sir A, pp 343-349 (Oct.).

ROYAL AERONAUTICAL SOCIETY: LECTURES

27th Lanchester Memorial Lecture — Scale effect in transonic flow, Haines A. B., pp 291-313 (Aug./Sept.).

ROYAL AERONAUTICAL SOCIETY: SYMPOSIA

WING TIP FLOWS AND WING DEVICES
Introductory remarks, Smith J. H. B.
Wing tip sails; progress to date and future developments, Spillman J. J.
The tip flow of a part span slotted flap, Willmer A. C., Barrett R. V. and Coleman J. D.
Experimental studies of viscous regions near streamlined wing tips (Synopsis), Horton H. P. and Xenophontos X. M., pp 443-470 (Dec.).

STABILITY AND CONTROL

The longitudinal dynamic stability and control of a large receiver aircraft during air-to-air refuelling, Bloy A. W., Ali K. A. M. and Trochalidis V., pp 64-71 (Feb.).
Correlation of predicted and free flight responses near departure conditions of a high incidence research model, Ross A. J. and Edwards G. F., pp 397-405 (Nov.).

STRUCTURES AND STRUCTURAL DESIGN

Aerodynamic and hydrodynamic aspects of high-speed water surface craft, Nangia R. K., pp 241-268 (June/July).
Stress analysis of a cylindrical shell with a variable wall thickness, Chehil D. S., Jategaonkar R. and Dhaliwal R. S., pp 367-372 (Oct.).
Large deflections of a spring hinged tapered cantilever beam with a rotational distributed loading, Nageswara Rao B. and Venkateswara Rao G., pp 429-437 (Nov.).
WING TIP FLOWS AND WING DEVICES (Symposium)
Introductory remarks, Smith J. H. B.
Wing tip sails; progress to date and future developments, Spillman J. J.
The tip flow of a part span slotted flap, Willmer A. C., Barrett R. V. and Coleman J. D.
Experimental studies of viscous regions near streamlined wing tips (Synopsis), Horton H. P. and Xenophontos X. M., pp 443-470 (Dec.).

TESTING

The 'Chu-tube': a velocimeter for use in highly-sheared, three-dimensional steady flows, Chu J. K., Rios-Chiquete E., Sarohia S. and Bernstein L., pp 142-149 (March).
Stress analysis of a cylindrical shell with a variable wall thickness, Chehil D. S., Jategaonkar R. and Dhaliwal R. S., pp 367-372 (Oct.).

TURBULENCE

An appraisal of 'flat plate' closure for the approximate solution of boundary layer problems, Poll D. I. A. and Hellon C. M., pp 373-389 (Oct.).

VORTICES

A numerical model for analysis of thin wings in inviscid incompressible flow, Singh B. K. and Basu B. C., pp 333-337 (Aug./Sept.).

WING TIP FLOWS AND WING DEVICES (Symposium)
Introductory remarks, Smith J. H. B.
Wing tip sails; progress to date and future developments, Spillman J. J.
The tip flow of a part span slotted flap, Willmer A. C., Barrett R. V. and Coleman J. D.
Experimental studies of viscous regions near streamlined wing tips (Synopsis), Horton H. P. and Xenophontos X. M., pp 443-470 (Dec.).

WATER SURFACE CRAFT
Aerodynamic and hydrodynamic aspects of high-speed water surface craft, Nangia R. K., pp 241-268 (June/July).

WIND TUNNELS
On the speed of progressive waves in gust-tunnels of the QMC type, Ishaq M. S. and Bernstein L., pp 321-332 (Aug./Sept.).

WINGS
An assessment of the use of low-order panel methods for the calculation of supersonic flows, Smith J. S. and Woodward D. S., pp 314-320 (Aug./Sept.).
A numerical model for analysis of thin wings in inviscid incompressible flow, Singh B. K. and Basu B. C., pp 333-337 (Aug./Sept.).
WING TIP FLOWS AND WING DEVICES (Symposium)
Introductory remarks, Smith J. H. B.
Wing tip sails; progress to date and future developments, Spillman J. J.
The tip flow of a part span slotted flap, Willmer A. C., Barrett R. V. and Coleman J. D.
Experimental studies of viscous regions near streamlined wing tips (Synopsis), Horton H. P. and Xenophontos X. M., pp 443-470 (Dec.).

AUTHOR INDEX

ALI, K. A. M., TROCHALIDIS, V. and BLOY, A. W.
The longitudinal dynamic stability and control of a large receiver aircraft during air-to-air refuelling, pp 64-71 (Feb.).
ASHILL, P. R., FULKER, J. L. and WEEKS, D. J.
The air-injection method of fixing boundary-layer transition and investigating scale effects, pp 214-222 (May).
BARRETT, R. V., COLEMAN, J. D. and WILLMER, A. C.
WING TIPS FLOWS AND WING DEVICES: The tip flow of a part span slotted flap, pp 453-469 (Dec.).
BASU, B. C. and SINGH, B. K.
A numerical model for analysis for thin wings in inviscid incompressible flow, pp 333-337 (Aug./Sept.).
BERNSTEIN, L., CHU, J. K., RIOS-CHIQUETE, E. and SAROHIA, S.
The 'Chu-tube': a velocimeter for use in highly-sheared, three-dimensional steady flows, pp 142-149 (March).
BERNSTEIN, L. and ISHAQ, M. S.
On the speed of progressive waves in gust-tunnels of the QMC type, pp 321-332 (Aug./Sept.).
BLOY, A. W., ALI, K. A. M. and TROCHALIDIS, V.
The longitudinal dynamics stability and control of a large receiver aircraft during air-to-air refuelling, pp 64-71 (Feb.).
CHEHIL, D. S., JATEGAONKAR, R. and DHALIWAL, R. S.
Stress analysis of a cylindrical shell with a variable wall thickness, pp 367-372 (Oct.).
CHRISTOPHER, P. A. T. and SHAW, C. T.
Generation of axi-symmetric body shapes in subsonic flow by means of polynomial distributions of sources and doublets along the axis of symmetry, pp 155-169 (April).
CHU, J. K., RIOS-CHIQUETE, E., SAROHIA, S. and BERNSTEIN, L.
The 'Chu-tube': a velocimeter for use in highly-sheared three-dimensional steady flows, pp 142-149 (March).
COLEMAN, J. D., WILLMER, A. C. and BARRETT, R. V.
WING TIP FLOWS AND WING DEVICES: The tip flow of a part span slotted flap, pp 453-469 (Dec.).
DAWSON, H. G.
Civil aviation, hijacking and international terrorism — an historical and legal review, pp 51-63 (Feb.).
DHALIWAL, R. S., CHEHIL, D. S. and JATEGAONKAR, R.
Stress analysis of a cylindrical shell with a variable wall thickness, pp 367-372 (Oct.).
DREW, W. and O'LEARY, C. O.
Flow visualisation on rolling models using minitufts, pp 269-274 (June/July).
EDWARDS, G. F. and ROSS, A. J.
Correlation of predicted and free-flight responses near departure conditions of a high incidence research model, pp 397-405 (Nov.).
FULKER, J. L., WEEKS, D. J. and ASHILL, P. R.
The air-injection method of fixing boundary-layer transition and investigating scale effects, pp 214-224 (May).
GAUDET, L.
Measurement of the drag of various three-dimensional excrescences in turbulent boundary layers, pp 170-182 (April).
HAINES, A. B.
27th Lanchester Memorial Lecture — Scale effect in transonic flow, pp 291-313 (Aug./Sept.).
HANCOCK, G. J.
A review of the aerodynamics of a jet in a cross flow, pp 201-213 (May).
HANCOCK, G. J. and LAM, J. S. Y.
On the application of axiomatic aerodynamic modelling to aircraft dynamics
Part 1: Introduction to the concept of axiomatic and aerodynamic modelling.
Part 2: Longitudinal aircraft motions with attached flow.
Part 3: Coupled longitudinal-lateral aircraft motions, with attached flow, pp 1-28 (Jan.).
Part 4: Two-dimensional dynamic stall, pp 72-88 (Feb.).
HANCOCK, G. J. and TOU, H. B.
Inviscid theory of two-dimensional aerofoil/spoiler configurations at low-speed,
Part I: Some experiences on simple panel methods applied to attached and separated flows.
Part II: Steady aerofoil-spoiler characteristics, pp 350-366 (Oct.).
Part III: On an incremental problem related to the steady flow about an aerofoil/spoiler configuration.
Part IV: Oscillatory aerofoil/spoiler characteristics, pp 406-428 (Nov.).
Part V: Steady and oscillating aerofoil-spoiler flap characteristics.
Part VI: The rapid deployment of a spoiler on a two-dimensional aerofoil, pp 479-498 (Dec.).
HASTINGS, R.C. and WILLIAMS, B. R.
Studies of the flow field near a NACA 4412 aerofoil maximum lift, pp 29-44 (Jan.).
HELLON, C. M. and POLL, D. I. A.
An appraisal of 'flat plate' closure for the approximate solution of boundary layer problems, pp 373-389 (Oct.).
HEMDAN, H. T.
A first order theory for Newtonian flow over two-dimensional airfoils, pp 471-478 (Dec.).
HORTON, H. P. and XENOPHONTOS, X. M.
WING TIP FLOWS AND WING DEVICES: Experimental studies of viscous regions near streamlined wing tips. (Synopsis), p 470 (Dec.).
ISHAQ, M. S. and BERNSTEIN, L.
On the speed of progressive waves in gust-tunnels of the QMC type, pp 321-332 (Aug./Sept.).
JATEGAONKAR, R., DHALIWAL, R. S. and CHEHIL, D. S.
Stress analysis of a cylindrical shell with a variable wall thickness, pp 367-372 (Oct.).
LAM, J. S. Y. and HANCOCK, G. J.
On the application of axiomatic aerodynamic modelling to aircraft dynamics
Part 1: Introduction to the concept of axiomatic and aerodynamic modelling.
Part 2: Longitudinal aircraft motions with attached flow.
Part 3: Coupled longitudinal-lateral aircraft motions, with attached flow, pp 1-28 (Jan.).
Part 4: Two-dimensional dynamic stall, pp 72-88 (Feb.).
NAGESWARA RAO, B. and VENKATESWARA RAO, G.
Large deflections of a spring hinged tapered cantilever beam with a rotational distributed loading, pp 429-437 (Nov.).
NANGIA, R. K.
Aerodynamic and hydrodynamic aspects of high-speed water surface craft, pp 241-268 (June/July).
NARAYAN, K. Y. and SESHADRI, S. N.
Shock-induced separated flows on the lee surface of delta wings, pp 128-141 (March).
O'LEARY, C. O. and DREW, W.
Flow visualisation on rolling models using minitufts, pp 269-274 (June/July).
POLL, D. I. A. and HELLON, C. M.
An appraisal of 'flat plate' closure for the approximate solution of boundary layer problems, pp 373-389 (Oct.).
PUGSLEY, Sir A.
The history of the Aeronautical Research Council; a personal view, pp 343-349 (Oct.).
PUROHIT, S. C.
Supersonic flow simulation for a boat-tailed heat shield, pp 183-189 (April).
RIOS-CHIQUETE, E., SAROHIA, S., BERNSTEIN, L. and CHU, J. K.
The 'Chu-tube'; a velocimeter for use in highly-sheared, three-dimensional steady flows, pp 142-149 (March).
ROSS, A. J. and EDWARDS, G. F.
Correlation of predicted and free-flight responses near departure conditions of a high incidence research model, pp 397-405 (Nov.).
SAROHIA, S., BERNSTEIN, L., CHU, J. K. and RIOS-CHIQUETE, E.
The 'Chu-tube': a velocimeter for use in highly-sheared, three-dimensional steady flow, pp 142-149 (March).
SESHADRI, S. N. and NARAYAN, K. Y.
Shock-induced separated flows on the lee surface of delta wings, pp 128-141 (March).
SHAW, C. T. and CHRISTOPHER, P. A. T.
Generation of axi-symmetric body shapes in subsonic flow by means of polynomial distributions of sources and doublets along the axis of symmetry, pp 155-169 (April).

SINGH, B. K. and BASU, B. C.
A numerical model for analysis of thin wings in inviscid incompressible flow, pp 333-337 (Aug./Sept.).
SMITH, J. H. B.
WING TIP FLOWS AND WING DEVICES: Introductory remarks, pp 443-445 (Dec.).
SMITH, J. S. and WOODWARD, D. S.
An assessment of the use of low-order panel methods for the calculation of supersonic flows, pp 314-320 (Aug./Sept.).
SPILLMAN, J. J.
WING TIP FLOWS AND WING DEVICES: Wing tip sails; progress to date and future developments, pp 445-453 (Dec.).
STINTON, D.
Aero-marine design and flying qualities of floatplanes and flying boats, pp 97-127 (March).
TOU, H. B. and HANCOCK, G. J.
Inviscid theory of two-dimensional aerofoil/spoiler configurations at low-speed. Part I: Some experiences on simple panel methods applied to attached and separated flows.
Part II: Steady aerofoil/spoiler characteristics, pp 350-366 (Oct.).
Pat III: On an incremental problem related to the steady flow about an aerofoil/spoiler configuration.
Part IV: Oscillatory aerofoil/spoiler characteristics, pp 406-428 (Nov.).
Part V: Steady and oscillatory aerofoil/spoiler flap characteristics.
Part VI: The rapid deployment of a spoiler on a two-dimensional aerofoil, pp 479-498 (Dec.).
TREBBLE, W. J. G.
Investigation of the aerodynamic performance and noise characteristics of a 1/5th scale model of the Dowty Rotol R212 propeller, pp 225-236 (May).
Investigations of the aerodynamic perfo-mance and noise characteristics of a Dowty Rotol R212 propeller at full-scale in the 24 ft wind tunnel, pp 275-284 (June/July).
TROCHALIDIS, V., BLOY, A. W. and ALI, K. A. M.
The longitudinal dynamic stability and control of a large receiver aircraft during air-to-air refuelling, pp 64-71 (Feb.).
VENKATESWARA RAO, G. and NAGESWARA RAO, B.
Large deflections of a spring hinged tapered cantilever beam with a rotational distributed loading, pp 429-437 (Nov.).
WEEKS, D. J., ASHILL, P. R. and FULKER, J. L.
The air-injection method of fixing boundary-layer transition and investigating scale effects, pp 214-224 (May).
WILLIAMS, B. R. and HASTINGS, R. C.
Studies of the flow field near a NACA 4412 aerofoil maximum lift, pp 29-44 (Jan.).
WILLMER, A. C., BARRETT, R. V. and COLEMAN, J. D.
WING TIP FOILS AND WING DEVICES: The tip flow of a part span slotted flap, pp 453-469 (Dec.).
WOODWARD, D. S. and SMITH, J. S.
An assessment of the use of low-order panel methods for the calculation of supersonic flows, pp 314-320 (Aug./Sept.).
XENOPHONTOS, X. M. and HORTON, H. P.
WING TIP FLOWS AND WING DEVICES: Experimental studies of viscous regions near streamlined wing tips (Synopsis), p 470 (Dec.).